



CRES

Centre for Regional Change in the Earth System

Phd course/workshop on Sea Level Rise

- Title:** Sea Level Rise and the Ice Sheets
- Dates:** 21-25 May 2012
- Location:** Center for Ice and Climate (CIC), University of Copenhagen, Denmark.
- Participants:** Phd students, postdocs, other scientists interested in sea level rise and ice sheets
- Credit:** 2.5 ECTS (attending), additional 2.5 ECTS if there is a presentation during the course.
- Format:** Invited lectures, discussions, presentations by the participants, poster session. All participants are invited to present their current work and results, and to suggest topics for discussion sessions.
- Excursions:** CIC ice core laboratory and ice core collections.
Niels Bohr Institute and Archives (depending on the interest).
- Registration:** Send email to: ddj@gfy.ku.dk. Registration deadline: May 1st 2012.
No registration fee. Travel, accommodation and meals are paid by the participants, except a few informal meals during the week and a workshop dinner Thursday May 24th.
- Organizer:** CRES, Centre for Regional Change in the Earth System, by Dorthe Dahl-Jensen, Centre for Ice and Climate, Niels Bohr Institute, University of Copenhagen.

Overview:

The aim of this course/workshop is to discuss our current knowledge on global and regional sea level rise. The role of the Greenland and Antarctic ice sheets in the past, the present and the future in the sea level changes will be discussed. The past, present and future role of the components of the sea level changes as steric sea level, land ice changes and land water changes will be discussed.

Themes to be discussed: detecting regional sea level changes, the role of satellites in sea level changes and ice sheet monitoring, understanding the components of sea level change, past sea level changes, predictions of future sea level changes, mass changes of the ice sheets, surface melt and ice discharge, the role of the ocean in ice discharge, past mass changes of the ice sheets.

The workshop will be limited to 40 participants and based on first to mill. Please register by email to Dorthe Dahl-Jensen (ddj@gfy.ku.dk) and if you wish include a title for a presentation as well as an indication of your preference of oral presentation or a poster.

Information on accommodation can be obtained from Lone Holm Hansen (lone@nbi.dk)



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Invited speakers:

Anne de Vernal, Professor, Director of GEOTOP, GEOTOP & Département des sciences de la Terre et de l'atmosphère Université du Québec à Montréal, Canada

Anny Cazenave, Professor, Laboratoire d'Etudes en Géophysique et Océanographie Spatiale (LEGOS) Centre National d'Etudes Spatiales, lead author on the IPCC AR5 SLR chapter, France

Eric Rignot, Professor of Earth system science at the University of California, Irvine, and principal scientist for the Radar Science and Engineering Section at NASA's Jet Propulsion Laboratory, USA

Giorgio Spada, Professor of Physics of the Solid Earth, Faculty of Environmental Sciences and Faculty of Sciences and Technology, Urbino University, Italy

Richard C.A. Hindmarsh, Professor, British Antarctic Survey, Cambridge, UK

A few invited speakers will be added

CRES homepage: www.cres-centre.net

Center for Ice and Climate homepage: www.iceandclimate.dk

Program for CRES Sea Level Rise Workshop

Monday 21 May		
09:30	Welcome	Jens Hesselbjerg (not confirmed) + Dorthe Dahl-Jensen
10:00	Lecture	DK lecture on sea level observations – to be announced
11:00	Coffee+tea break	
11:30	Lecture	DK lecture on sea level observations - to be announced
11:30	Lunch	
12:30	Lecture	Eric Rignot: Radar remote sensing (interferometry) of ice sheets. Comparison with other methods (GRACE, Altimetry).
13:30	Lecture	Martin Lidegaard: SLR importance for policy making (not confirmed)
14:30	Coffee+tea break	
15:00	Discussion	Groups to discuss input and sum up
16:00	Presentations	Group presentations of discussions
17:00	End of day	

Tuesday 22 May		
09:00	Lecture	Eric Rignot: Mass balance of the large ice sheets using the mass budget method (mass discharge vs surface mass balance)
10:00	Lecture	Eric Rignot: Contribution to sea level from ice sheets in the last few decades. Importance of ice-ocean interactions in Greenland (calving faces) and Antarctica (floating ice shelves).
11:00	Coffee+tea break	
11:30	Lecture	Anny Cazenave: Sea level measurements (on different time scales but with focus on modern measurements)
11:30	Lunch	
12:30	Lecture	Anny Cazenave: Causes for present-day sea level changes: steric sea level, land waters (land ice will be covered by other speakers)
13:30	Lecture	Dorthe Dahl-Jensen: Eemian history of the Greenland ice sheet
14:30	Coffee+tea break	
15:00	Lectures	PhD presentations
16:00	Posters	PhD posters
17:00	Picnic	Dyrehaven if weather permits

Wednesday 23 May		
09:00	Lecture	Giorgio Spada: GIA modeling
10:00	Lecture	Giorgio Spada: Introduction and use of software: http://www.fis.uniurb.it/spada/SELEN_minipage.html
11:00	Coffee+tea break	
11:30	Lecture	Giorgio Spada : Continued exercise with Sea Level Software
11:30	Lunch	
12:30	Lecture	Richard Hindmarch: History of Antarctica
13:30	Lecture	Anne de Vernal: Ice volume change signals from marine sediment cores, with special reference to the records off the southern Greenland margins.
14:30	Coffee+tea break	
15:00	Discussion	Sum up knowledge – what would we like to know?
16:00	Presentations	Group presentations of discussions
17:00	End of day	Excursion to see the Greenland ice cores
19:00	Tivoli	Meet in Tivoli?

Thursday 24 May		
09:00	Lecture	Richard Hindmarch: Stability of marine ice-sheets
10:00	Lecture	Richard Hindmarch: Cont.?
11:00	Coffee+tea break	
11:30	Lecture	Giorgio Spada: Present day sea level changes associated with the present day melting of the Greenland ice sheet
11:30	Lunch	
12:30	Lecture	Andreas Ahlstrøm: Results from PROMICE (not confirmed)
13:30	Lecture	Andreas Ahlstrøm : Cont. ? (not confirmed)
14:30	Coffee+tea break	
15:00	Lecture	PhD presentations
16:00	Lecture	PhD presentations
17:00	Drink	
18:00	Dinner	

Friday 25 May		
09:00	Lecture	Anne de Vernal: Revisiting marine oxygen isotope stratigraphy vs. the sea-level issue
10:00	Lecture	Anne de Vernal: cont.?
11:00	Coffee+tea break	
11:30	Lecture	Bo Vinther: Mass balance bump at the onset of a interglacial (not confirmed)
11:30	Lunch	
12:30	Lecture	To be announced
13:30	Lecture	To be announced
14:30	Coffee+tea break	
15:00	Discussion	Sum up – what have we learned- take home message
16:00	Presentations	Group presentations of discussions
17:00	End of day	